REMARKS

In the present Office Action claims 1-19, and 29-35 were examined. Claims 1-19 and 29-35 were rejected, no claims were objected to, and no claims were allowed. By this Amendment and Reply, Claim 9 was amended, Claims 20-28 were withdrawn and no claims were added. Accordingly, Claims 1-19 and 29-35 remain pending for further examination.

Favorable reconsideration of this application in light of the above-identified amendments and following discussion is respectfully requested.

Restriction Requirement:

In Section 1 of the Office Action, the Examiner maintains and makes final the Restriction Requirement. Accordingly, Claims 20-28 have been withdrawn as being directed to a non-elected invention. Applicants expressly reserve the right to file one or more continuation applications to continue prosecution of claims 20-28 and any further claims that may be appropriate.

Indefiniteness Rejection under 35 U.S.C. §112, Second Paragraph:

In Section 2 of the Office Action the Examiner rejects Claim 9 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter of Applicants invention. In particular, the Examiner states that the term "the core region" lacks antecedent basis.

Claim 9 has been amended with the Examiner's comment in mind. Support for this amendment made be found in the original disclosure and at least at page 11, lines 14-18 and FIGS. 4 and 6-13. Thus, no new matter is entered.

In view of the above, the Examiner is respectfully requested to reconsider and withdraw the rejection to Claim 9, as now written, under 35 U.S.C. §112, second paragraph.

Rejections under 35 U.S.C. §103 (a):

In Sections 3 and 4 of the Office Action the Examiner rejects Claims 1-14, 17-19, 29-31, 34 and 35 under 35 U.S.C. §103(a) as being unpatentable over Neumann (U.S. Patent No. 3,597,188). These rejections are respectfully disagreed with, and traversed below.

Neumann discloses a process of making a high density iron powder from cast iron shot. This reference is similar to prior art described in the Background Section of the present application, where the field of industrial shot production is discussed.

Specifically, Neumann is seen to describe an improved process for forming iron powder useful in powder metallurgy from industrial shot by removing an intermediate grinding step prior to sintering and decarburization. See, for example, Neumann at Col. 1, line 55 to Col. 2, line 7. The Examiner appears to concentrate on the atomization and decarburization steps of Neumann in the rejection, ignoring properties of the pellets and the intended use of the process, e.g., to yield a high density iron powder, which, as is discussed below, is in contrast to a process for identifying shot within the industrial shot production process having sizes, roundness and hardness suitable for use as ballistic shot as is taught and claimed in the present invention.

The Examiner asserts a prima facie case of obviousness is established since Neumann describes "various sizes ... [of particles that] ... overlap those recited in the instant claim" and that Neumann describes process steps "subjecting substantially the same material to substantially the same set of manipulative steps as is done in the present invention, [that] it stand to reason that the same hardness values, in all or part of the final product material, would likewise be achieved in both instances." See page 3 of the Office Action.

With respect to particle sizes, Neumann is not concerned with obtaining spherical shot or shot sizes suitable for use in shot shells. Rather, Neumann describes passes shot through varying sieves sizes where a majority of shot retained in its final product were within the 80, 100, 120 mesh sieve sizes. See Neumann at Col. 3. These particle sizes are consistent with Neumann's goal of use of its final product in powder metallurgy and are inconsistent with shotshell use.

With respect to hardness values, there is no express or implicit suggestion in Neumann regarding a median Knoop surface hardness of less than 225 KHN at 21°C as recited in independent Claims 1, 17, 29 or a median Vickers surface hardness as recited in independent Claim 34. As recited in the instant Specification, such surface hardness are preferable in ammunition shotload applications to reduce barrel wear. See, for example, the Specification at least at pages 15-19.

Accordingly, and in respectful disagreement with the Examiner, Neumann is not seen to be related to the present invention where two distinct fields, shotshell ammunition and industrial

shot production, are brought together in an inventive way to identifying and separating shot within the industrial shot production process having sizes, roundness and hardness suitable for use as ballistic shot.

Therefore, Applicants respectfully request that the rejection of Claims 1-14, 17-19, 29-31, 34 and 35 under 35 U.S.C. §103(a) as being unpatentable over Neumann be reconsidered and withdrawn.

In Section 5 of the Office Action the Action the Examiner rejects Claims 15, 16, 32 and 33 under 35 U.S.C. §103(a) as being unpatentable over Neumann, as above, and further in view of Arvidsson (U.S. Patent No. 6,027,544). These rejections are respectfully disagreed with, and traversed below.

The deficiencies of Neumann are described above. The Examiner notes that Neumann does not describe manufacturing compositions as set forth in the instant claims. The Examiner attempts to cure this deficiency with Arvidsson.

Arvidsson is seen to describe a process for preparation of an iron-based powder for use in the manufacture of powder metallurgical products. At Col. 2, lines 43-57, Arvidsson note suitable compositions of a starting, iron-based powder. However, Arvidsson is not seen to describe or suggest starting with shot having a same or similar composition. Accordingly, it is not seen how the Examiner combines this reference with Neumann.

Assuming that one skilled in the art would make the combination proposed by the Examiner, it is respectfully submitted that such combination would still not make the present invention obvious at least since these documents merely describe processes for forming metallurgical powders and neither reference alone, or in combination, describe a process for identifying and separating shot within an industrial shot production process having sizes, roundness and hardness suitable for use as ballistic shot.

Therefore, Applicants respectfully request that the rejection of Claims 15, 16, 32 and 33 as being unpatentable over the proposed combination of Neumann and Arvidsson be reconsidered and withdrawn.

As can be seen by the foregoing, Applicants submit that there is no suggestion for a combination of references which would yield the presently claimed invention. Accordingly, Applicants submit that no prima facie case of obviousness has been established.

Nevertheless, Applicants are in possession of significant information regarding objective indicia of the nonobviousness of the claimed invention. The enclosed Declaration of Morris C. Buenemann, Jr., originally submitted to the Office in the parent of this continuation application, U.S. Patent Application Ser. No. 09/329,475, now U.S. Patent No. 6,258,316, describes a commercial embodiment of the claimed invention and relates objective indicia (commercial success) of the nonobviousness of the invention.

While the material contained in the Declaration is not necessarily exhaustive of objective indicia of nonobviousness and does not necessarily address any additional information which might be useful to rebut a prima facie case of obviousness should one be asserted to have been established, it does note that one advantage of key advantage of the commercial embodiment is a lower cost relative to real and hypothetical alternative products. It is respectfully submitted that the nexus between the success illustrated in Mr. Buenemann's Declaration and the previously claimed invention equally applies to the invention as recited in the instant claims.

Accordingly, Applicants submit that none of the references, alone or in combination, anticipate or make obvious the invention as presently claimed and notice thereof is respectfully requested.

Additional Papers:

Applicants' representatives noted a typographical error in the Attorney Docket Number appearing in the present case. Appended hereto is a request for correction of this error.

In view of the foregoing, it is respectfully submitted that the present application is in condition for immediate allowance. Early and favorable action is hereby respectfully requested.

Applicant has made a diligent and sincere effort to place this application in condition for immediate allowance and notice to this effect is earnestly solicited. To expedite prosecution of this application to allowance, the Examiner is invited to call the undersigned attorney to discuss any issues relating to this application.

Respectfully submitted,
Morris C. BUENEMANN, Jr. et al.

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